Figure 1

>huGST-3 (from LifeSeq EST #2617407, ORF is highlighted in capitals)

gaattccattgtgttgggtacggaagacgacagaagggtagaggagaaaagcgcatgg
cccggctagcagtgagcctctcaaaagcagcagggaagcccaagccacaaggtcttcc
acttcagcacaatgctactgcctaaaaaaATGAAGCTCCTGCTGTTTCTGGTTTCCCA
GATGGCCATCTTGGCTCTATTCTTCCACATGTACAGCCACAACATCAGCTCCCTGTCT
ATGAAGGCACAGCCCGAGCGCATGCACGTGCTGGTTCTGTCTTCCTGGCGCTCTGGCT
CTTCTTTTGTGGGGCAGCTTTTTGGGCAGCACCCAGATGTTTTCTACCTGATGGAGCC
CGCCTGGCACGTGTGGATGACCTTCAAGCAGAGCACCGCCTGGATGCTGCACATGGCT
GTGCGGGATCTGATACGGGCCGTCTTCTTGTGCGACATGAGCGTCTTTGATGCCTACA
TGGAACCTGGTCCCCGGAGACAGTCCAGCCTCTTTCAGTGGGAGAACAGCCGGGCCCT
GTGTTCTGCACCTGCCTGTGACATCATCCCACAAGATGAAATCATCCCCCGGGCTCAC
TGCAGGCTCCTGTGCAGTCAACAGCCCTTTGAGGTGGTGGAGAAGGCCTGCCGCTCCT
ACAGCCACGTGGTGCTCAAGGAGGTGCGCTTCTTCAACCTGCAGTCCCTCTACCCGCT
GCTGAAAGACCCCTCCCTCAACCTGCATATCGTGCACCTGGTCCGGGACCCCCGGGCC
GTGTTCCGTTCCCGAGAACGCACAAAGGGAGATCTCATGATTGACAGTCGCATTGTGA
TGGGGCAGCATGAGCAAAAACTCAAGAAGGAGGACCAACCCTACTATGTGATGCAGGT
CATCTGCCAAAGCCAGCTGGAGATCTACAAGACCATCCAGTCCTTGCCCAAGGCCCTG
CAGGAACGCTACCTGCTTGTGCGCTATGAGGACCTGGCTCGAGCCCCTGTGGCCCAGA
CTTCCCGAATGTATGAATTCGTGGGATTGGAATTCTTGCCCCATCTTCAGACCTGGGT
GCATAACATCACCCGAGGCAAGGGCATGGGTGACCACGCTTTCCACACAAATGCCAGG
GATGCCCTTAATGTCTCCCAGGCTTGGCGCTGGTCTTTGCCCTATGAAAAGGTTTCTC
GACTTCAGAAAGCCTGTGGCGATGCCATGAATTTGCTGGGCTACCGCCACGTCAGATC
TGAACAAGAACAGAGAAACCTGTTGCTGGATCTTCTGTCTACCTGGACTGTCCCTGAG
CAAATCCACTAAgagggttgagaaggctttgctgccacctggtgtcagcctcagtcac
tttctctgaatgcttctgagccttgcctacatctctgagccttaactacatgtctgtg
ggtatcacactgagtgtgagttgtgtccacacgtgctcaagcagaaggacttttgtgt
ccatgcttgtgtctagaaaacagactggggaaccttatgtgagcagcacatcccacca
gtgaaacagggtattgctcttcttcttttcttgatcttcctgtctgggcagacttcag
agactttgtggcctggaggcctattaagcacgacacagtatcagtggaattgatccat
aaacctccctgtccacatcttgcccaatggggaatggatctttcaccaaagagctcac
cagcattttccacagagatgcgaattctgagcccttggagttcccaatgggattcaag
gaaggaagtgggaacaaggttggatgcctacttatgagcttgaccatacagctatcgg
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tgcctgggcttgatttgaatatcatttccctttgcattttcccattacatagaaaact
ttgacctgtgaaacttgccatctgttaatactaaaattcccaaataaggttctgttta
gaatgtccctttttatgcttcttaattattagcagtaaatgttcatttttatgggatc
ctaaaaaaaaaaa

Figure 2

>huGST-3 (Full length EST Lifeseq #2617407)

MLLPKKMKLLLFLVSQMAILALFFHMYSHNISSLSMKAQPERMHVLVLSSWRSGSSFV
GQLFGQHPDVFYLMEPAWHVWMTFKQSTAWMLHMAVRDLIRAVFLCDMSVFDAYMEPG
PRRQSSLFQWENSRALCSAPACDIIPQDEIIPRAHCRLLCSHNPLRWWKRPCRSYSHV
VLKEVRFFNLQVPIPAAERPLLNLHIVHLVLDPRSVFRSRERTKGDLMIDSRIVMGQH
EQKLKKEDQPYYVMQVICQSQLEIYKTIQSLPKALQERYLLVRYEDLARAPVAQTSRM
YEFVGLEFLPHLQTWVHNITRGKGMGDHAFHTNARDALNVSQAWRWSLPYEKVSRLQK
ACGDAMNLLGYRHVRSEQEQRNLLLDLLSTWTVPEQIH

Figure 3

>msGST-3 from mouse C57Bl/6 BAC clone #87(b15) (ORF is highlighted as capitals)

gggcatctaacttacacttggtcagacaagacaagcttttgcctacaaaggccacact
ctgtcaggggtgtagaaaggtgtggggtgtggcagaactccctatagtgattaaatgt
gctgggtaggatattctcggtggtttgatggatgagaaagcccagagggtgagtttta
aagacttgtaacatagaatgcagtgatccaattaagagccagaattactttgcagagg
gatctggacaaatacttgcaggaatgtttttggtttttgtttgtttgtttgtttgttt
tacattgctccttggatgggaatccagagaagcccgaaggtagatgctgtaacaacct
aactcagccccatcccctctgcttgctctttcaaggtcttctccttcttccgcaggAT
GATGCTGTTGAAGAAAGGGAGGCTGCTGATGTTCCTGGGTTCCCAGGTCATCGTTGTA
GCTCTCTTCATCCATATGTCCGTCCACAGACACCTTTCCCAGAGGGAGGAGTCCAGGA
GGCCCGTGCATGTGCTGGTGCTGTCTTCCTGGCGGTCAGGATCCTCTTTTGTGGGACA
GCTTTTCGGGCAGCACCCGGATGTGTTCTACCTGATGGAGCCTGCCTGGCATGTGTGG
ATGACTTTCACCAGCAGCACAGCCTGGAAGCTGCACATGGCTGTGCGGGATCTTCTGC
GTTCCGTCTTCCTGTGTGACATGAGCGTCTTTGATGCCTACATGAACCCAGGCCCCCG
GAAACAGTCCAGCCTCTTCCAGTGGGAGCAAAGCCGGGCCCTGTGCTCAGCGCCTGTG
TGTGACTTCTTCCCTGCCCACGAGATCAGCTCACCCAAGCACTGCAAGCTGCTCTGCG
GTCAGCAGCCCTTTGATATGGTGGAGAAGGCCTGCCGCTCTCACGGCTTCGTGGTACT
CAAGGAGGTGCGTTTTCTCAGCCTGCAGGCCCTCTATCCACTACTCACGGACCCTTCC
CTCAACCTGCACGTCGTGCACCTGGTCCGAGACCCCCGGGCCGTGTTCCGATCCCGGG
AGCACACCACCATAGAACTCATGGTTGACAGTCATATTGTGCTAGGGCAGCATTTGGA
AACGATCAAGGAGGAAGACCAGCCCTATTATGCCATGAAGATCATCTGCAAAAGCCAG
GTGGACATAGTCAAGGCCATCCAAACCCTCCCTGAAGCTCTGCAGCAGCGCTACCTGT
TCCTGAGGTATGAGGACCTGGTTCGGGCACCCCTGGCCCAGACGACCAGACTATATAA
ATTTGTGGGGTTGGATTTTTTGCCCCACCTCCAAACATGGGTTTACAATGTCACCCGC
GGCAAGGGCATGGGTCAGCATGCCTTCCATACTAACGCCAGGAACGCCCTCAACGTCT
CTCAGGCGTGGCGTTGGTCCTTACCTTACGAAAAGGTTTCCCAGCTTCAAGATGCCTG
CGGTGAGGCTATGGATTTGCTGGGATACCTCCAGGTCAGATCTCAACAAGAACAAGGC
AACCTGTCCCTGGATCTTCTGTCCTCCTCCCATATCTTGGGGCAGGTCTTCCGAGAAG
GTTAAggaggtctgtctgcacccctggttccagccttagtcaccattaaacgcacag
aagccttaaggtataaccaaactgagtgccccttctcctcagccccaagcagagggg
tctttgtgtctatactcatgtctaccctacaactgagcctaaaaagccaagaaacagt
atctttctgtcttgaaaatacttaggaaccttaagcagccccttgacctgtcaagca
agactttcttgtaaccttggccttcttacctgtgcataccttggagactcggtctgga
ggcatactggacacagcaaacagcatctgtggagtgtgtctgtaaacctccctgtcac
atcttttctaag

Figure 4

>msGST-3 translation of ORF from mouse C57Bl/6 BAC clone #87(b15)

MMLLKKGRLLMFLGSQVIVVALFIHMSVHRHLSQREESRRPVHVLVLSSWRSGSSFVG
QLFGQHPDVFYLMEPAWHVWMTFTSSTAWKLHMAVRDLLRSVFLCDMSVFDAYMNPGP
RKQSSLFQWEQSRALCSAPVCDFFPAHEISSPKHCKLLCGQQPFDMVEKACRSHGFVV
LKEVRFLSLQALYPLLTDPSLNLHVVHLVRDPRAVFRSREHTTIELMVDSHIVLGQHL
ETIKEEDQPYYAMKIICKSQVDIVKAIQTLPEALQQRYLFLRYEDLVRAPLAQTTRLY
KFVGLDFLPHLQTWVYNVTRGKGMGQHAFHTNARNALNVSQAWRWSLPYEKVSQLQDA
CGEAMDLLGYLQVRSQQEQGNLSLDLLSSSHILGQVFREG

Figure 5

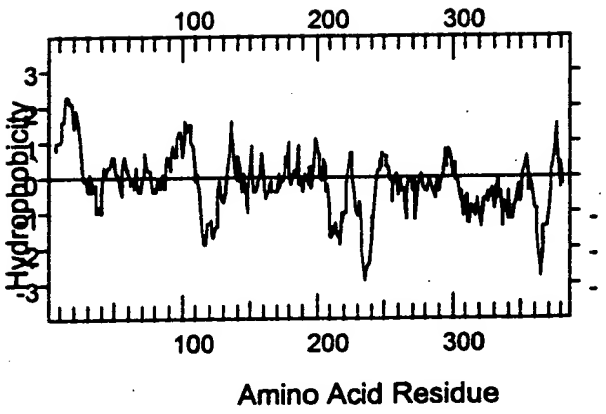

100
200
300
3
Hydrophobicity
-3
100
200
300
Amino Acid Residue

Figure 6

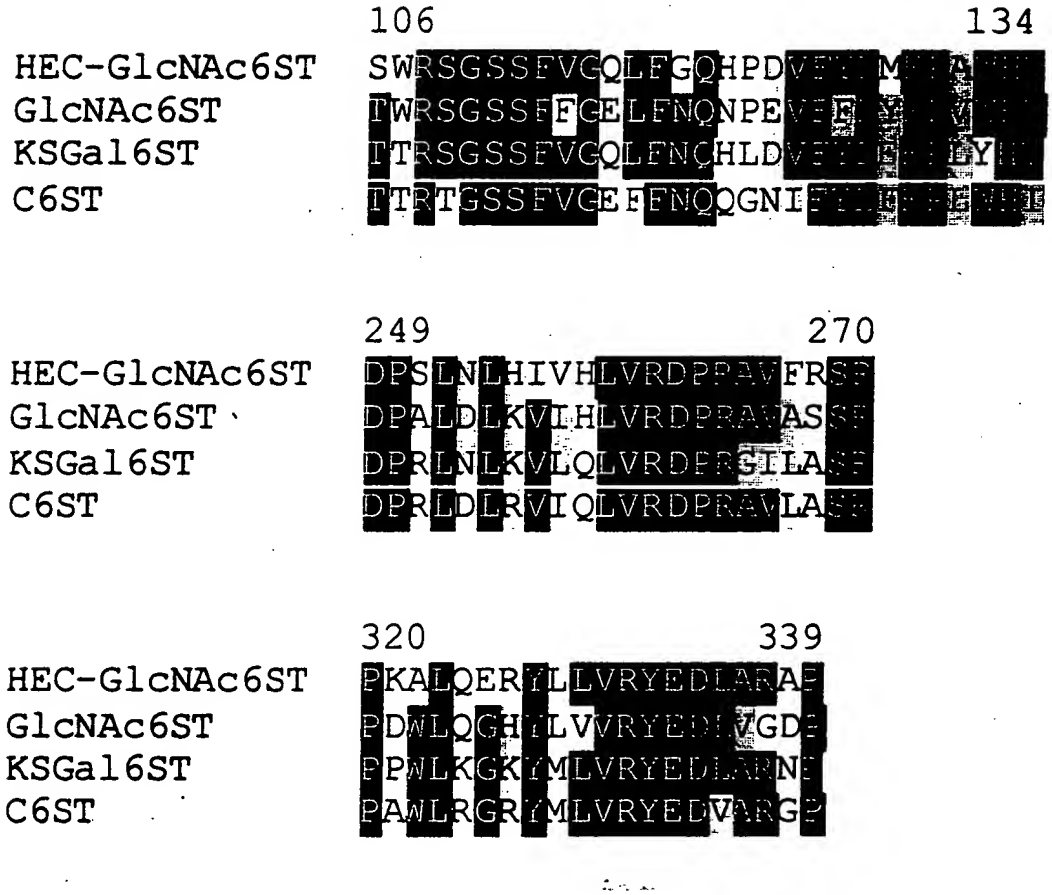
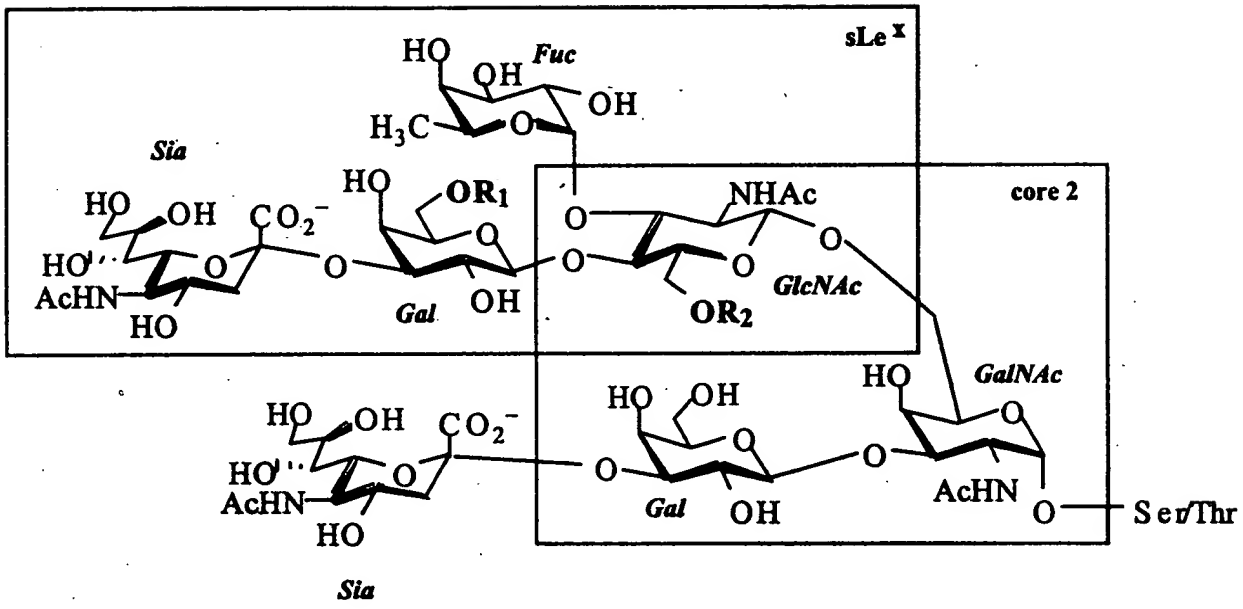

106
134
HEC-GlcNAc6ST
GlcNAc6ST
KSGal6ST
C6ST
249
270
HEC-GlcNAc6ST
GlcNAc6ST
KSGal6ST
C6ST
320
339
HEC-GlcNAc6ST
GlcNAc6ST
KSGal6ST
C6ST

Figure 7



R1 = H, R2 = SO 3⁻ : 6-sulfo sLe x

R1 = SO 3⁻, R2 = H : 6'-sulfo sLe x

R1 = R2 = SO 3⁻ : 6',6-disulfo sLe x

08230 02054960

Figure 8

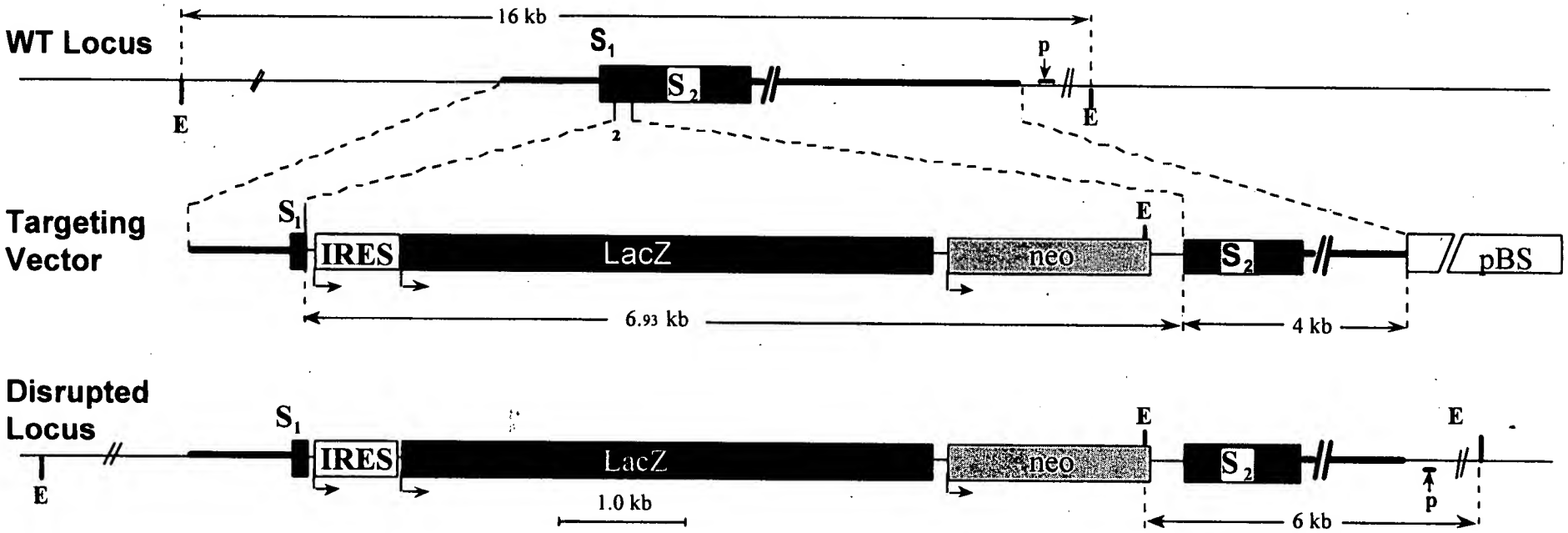


Figure 9

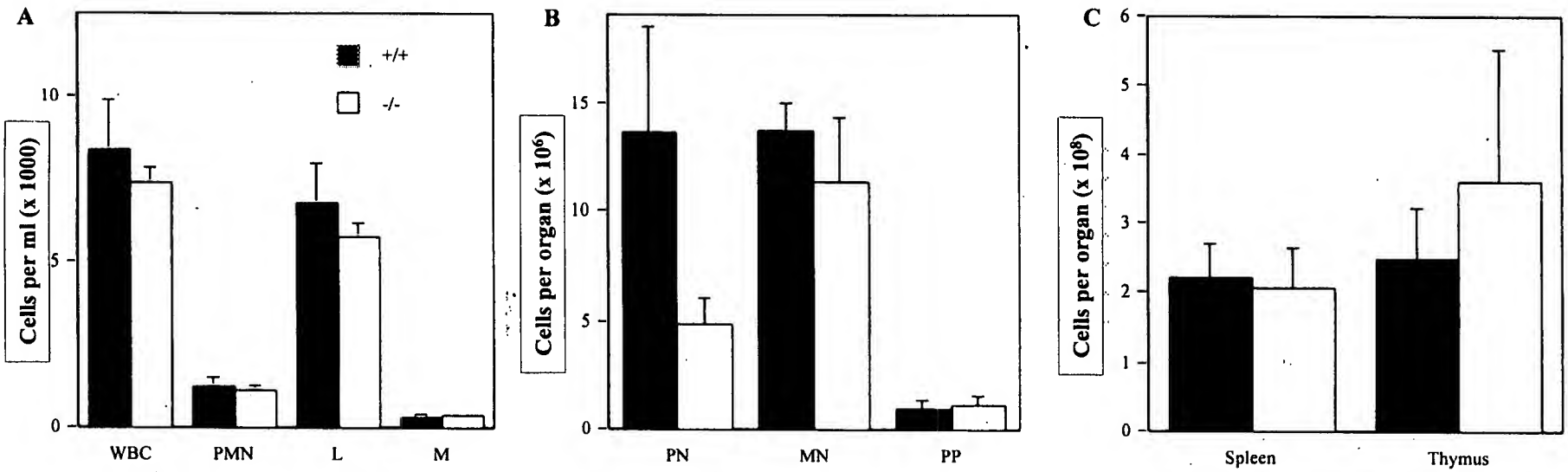

A
+/+
-/-
Cells per ml (x 1000)
10
5
0
WBC
PMN
L
M
B
Cells per organ (x 10⁶)
15
10
5
0
PN
MN
PP
C
Cells per organ (x 10⁸)
6
5
4
3
2
1
0
Spleen
Thymus

Figure 10

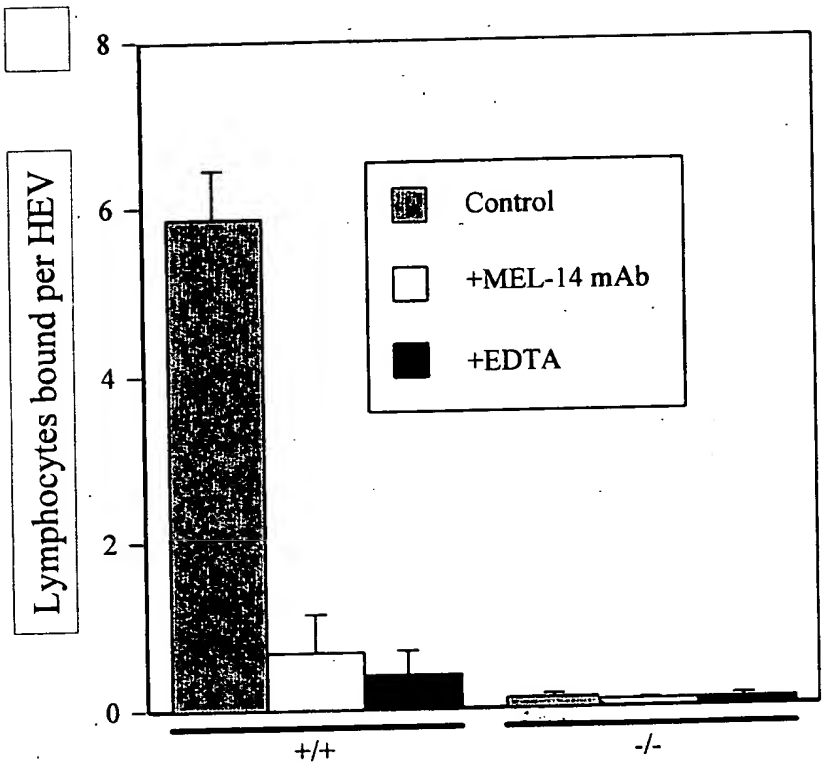
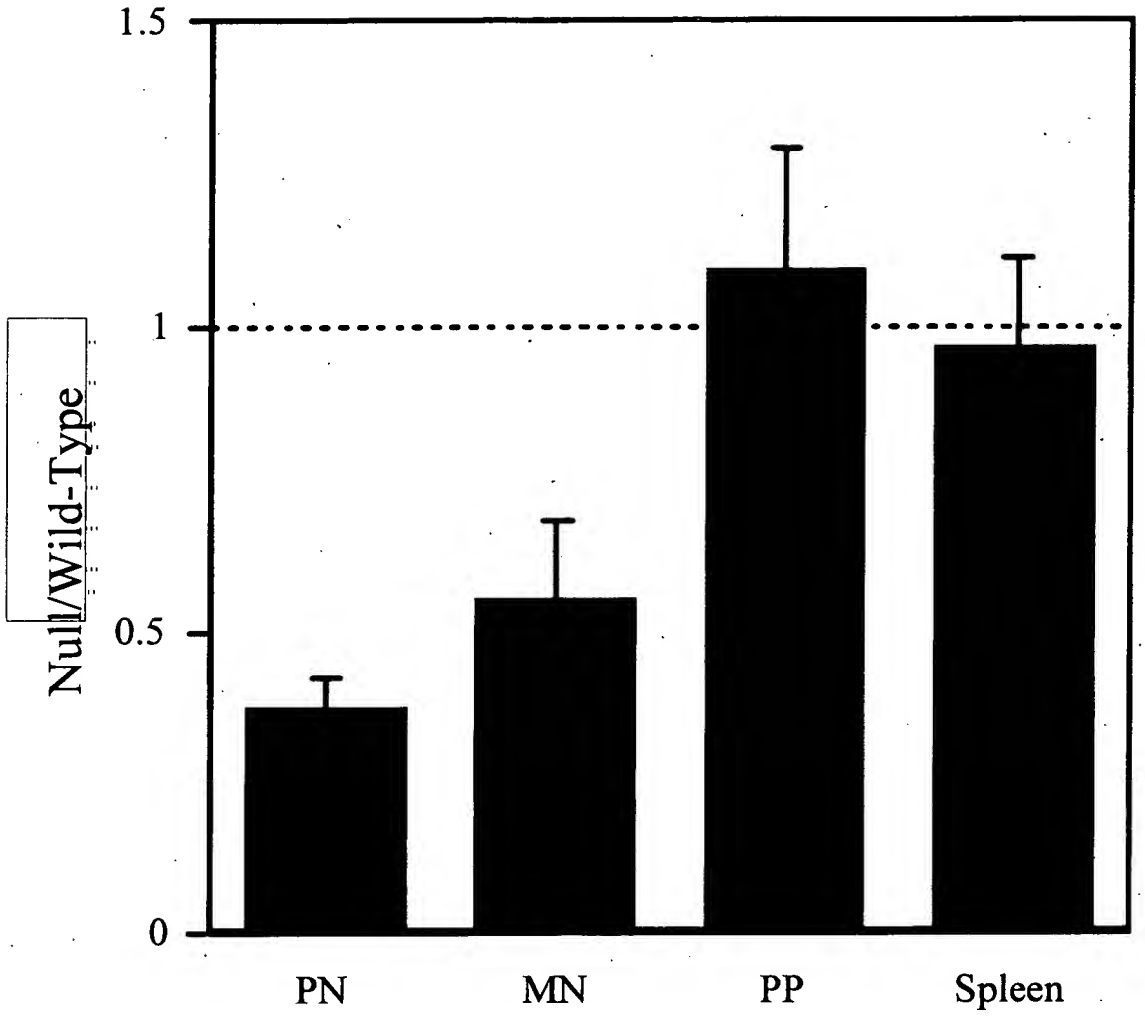



Figure 11